CONTROLLING POWER AND PERFORMANCE IN A MULTIPROCESSING SYSTEM

ABSTRACT OF THE DISCLOSURE

A method and controller for managing power and performance of a multiprocessor (MP) system is described. The controller receives sensor data corresponding to physical parameters within the MP system. The controller also receives quality of service and policy parameters corresponding to the MP system. The quality of service parameters define commitments to customers for utilization of the MP system. The policy parameters correspond to operation limits on inputs and outputs of the MP system. The operation input limits relate to the cost and availability of power or individual processor availability. The operation output limits relate to the amount of heat, acoustic noise levels, EMC levels, etc. that the individual or group of processors in the MP system are allowed to generate in a particular environment. A controller receives the physical parameters, the quality of service parameters and policy parameters and determines performance goals for the MP system and processors within the MP system. Then controller generates controls and applies them to individual processors to achieve the performance goals.

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